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Intellectual Property Administration  
P. O. Box 272400  
Fort Collins, Colorado 80527-2400



PATENT APPLICATION **2871**

ATTORNEY DOCKET NO. 30001065

IN THE  
UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Kitson, et al.

Confirmation No.: 6953

Application No.: 09/816,941

Examiner: Thoi V. Duong

Filing Date: March 23, 2001

Group Art Unit: 2871

Title: LIQUID CRYSTAL ALIGNMENT

Mail Stop Amendment  
Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

INFORMATION DISCLOSURE STATEMENT

Sir:

This Information Disclosure Statement is submitted:

- ( ) under 37 CFR 1.97(b), or  
(Within three months of filing national application; or date of entry of national application; or before mailing date of first office action on the merits; whichever occurs last)
- (X) under 37 CFR 1.97 (c) together with either a: 07/19/2005 RFEKADU1 00000001 082025 09816941  
( ) Statement under 37 CFR 1.97(e), or 01 FC:1806 180.00 DA  
(X) a \$180.00 fee under 37 CFR 1.17(p), or  
(After the CFR 1.97 (b) time period, but before final action or notice of allowance, whichever occurs first)
- ( ) under 37 CFR 1.97 (d) together with a:  
( ) Statement under 37 CFR 1.97(e)(1) or (2), and  
( ) a \$180.00 fee set forth in 37 CFR 1.17(p).  
(Filed after final action, a notice of allowance, on or before payment of the issue fee)

Please charge to Deposit Account **08-2025** the sum of \$180.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **08-2025** pursuant to 37 CFR 1.25.

(X) Applicant(s) submit herewith Form PTO 1449 - Information Disclosure Statement together with any required copies of patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

( ) A concise explanation of the relevance of foreign language patents, foreign language publications and other foreign language information listed on PTO Form 1449, as presently understood by the individuals(s) designated in 37 CFR 1.56 (c) most knowledgeable about the content is given on the attached sheet, or where a foreign language patent is cited in a search report or other action by a foreign patent office in a counterpart foreign application, an English language version of the search report or action which indicates the degree of relevance found by the foreign office is listed on form PTO 1449 and is enclosed herewith.

It is requested that the information disclosed herein be made of record in this application.

- (X) I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment Kitson, et al.  
Commissioner for Patents, Alexandria, VA  
22313-1450. Date of Deposit: JULY 15, 2005

Respectfully submitted,

By

Paul D. Greeley

Attorney/Agent for Applicant(s)  
Reg. No. **31,019**

Typed Name: Joanne A. Romaniello

Signature: Joanne A. Romaniello

Date: July 15, 2005

Telephone No.: 203 327 4500

FORM PTO-1449

Docket Number (Optional)

30001065

Application Number

09/816,941

Applicant

Kitson et al.

Filing Date

03/23/2001

Group Art Unit

2871

INFORMATION DISCLOSURE CITATION  
IN AN APPLICATION

Use several sheets if necessary)

## U. S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
	4,333,708	06/1982	Boyd et al.			

## FOREIGN PATENT DOCUMENTS

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
	2 286 467	08/1995	Great Britain			X	
	WO 91/11747	08/1991	PCT				X
	WO 92/00546	01/1992	PCT				x
	WO 96/24880	08/1996	PCT			X	

## OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)

	YAMAMOTO et al., "Pretilt angle control of liquid-crystal alignment by using projections on substrate surfaces for dual-domain TN-LCD", <i>J. SID</i> , 4/2, 1996
	COGNARD, "Alignment of Nematic Liquid Crystals and Their Mixtures", <i>Mol. Cryst. Liq. Cryst.</i> 1-78 (1982) Supplement 1
	BERREMAN, "The Alignment of Liquid Crystals by Grooved Surfaces", <i>Mol. Cryst. Liq. Cryst.</i> Vol. 23, p. 215-231 1973.

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP §609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

<b>FORM PTO-1449</b>  <b>INFORMATION DISCLOSURE CITATION IN AN APPLICATION</b>  (Use several sheets if necessary)			Docket Number (Optional) <b>30001065</b>		Application Number <b>09/816,941</b>	
			Applicant			
			<b>Kitson et al.</b>			
			Filing Date		Group Art Unit	
			<b>03/23/2001</b>		<b>2871</b>	

  

U. S. PATENT DOCUMENTS						
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FOREIGN PATENT DOCUMENTS							
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO
	WO 97/14990	04/1997	PCT			X	

  

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, Etc.)	
	CHENG et al., "The liquid crystal alignment properties of photolithographic gratings", <i>Appl. Phys. Lett.</i> 35(6), 15 September 1979
	BRYAN-BROWN et al., "Weak surface anchoring of liquid crystals", <i>Nature</i> Vol. 399, p. 338 1999
	LIEN et al., "Active-matrix display using ion-beam-processed polyimide film for liquid crystal alignment", <i>IBM Journal of Research and Development</i> , Vol. 42, Nos. 3/4, 1998
EXAMINER	DATE CONSIDERED

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	Applicant <b>Kitson et al.</b>	
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**U. S. PATENT DOCUMENTS**

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**FOREIGN PATENT DOCUMENTS**

	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	Translation	
						YES	NO

**OTHER DOCUMENTS** (including Author, Title, Date, Pertinent Pages, Etc.)

	J. Cognard, <i>Alignment of Liquid Crystals</i> , section III.2.3, p. 67

EXAMINER	DATE CONSIDERED
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